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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,124	11/21/2003	Eric Holzle	HOLZ0201	1123
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WESLEY B. AMES 7031 LOS VIENTOS SERENOS ESCONDIDO, CA 92029			EXAMINER NEGIN, RUSSELL SCOTT	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/707,124	Applicant(s) HOLZLE, ERIC	
	Examiner Russell S. Negin	Art Unit 1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9 January 2008 has been entered.

Claims 7-13 are pending and examined in the instant Office action.

Withdrawn Objections/Rejections

The objection to the amended drawings is withdrawn in view of the amended drawing filed on 10 December 2007.

The rejections of claims 7-13 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention are withdrawn in view of amendments filed by applicant on 9 January 2008.

The rejection of claim 7 under 35 U.S.C. 103(a) as being unpatentable over Copley [New Scientist, volume 171, no. 2304; August 18, 2001; page 15 (fulltext printout included from DIALOG)] is withdrawn in view of the fact that Copley does not specifically disclose both types of classes of MHC molecules in discussing the matings

of mice. Consequently, in view of further consideration of the art, this rejection is withdrawn.

Specification

The amendment filed 17 August 2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

The amendments to the title of the invention, and paragraphs [0003], [0007], and [0012] of the specification while deleting "social" interests, adds the relationship interests of "romantic," "reproductive," and/or "intimate," which are not specifically supported in the original disclosure.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

INDEFINITENESS

Claims 12-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 is dependent from cancelled claim 6. As is stated in section 608.01(n) of the MPEP:

If the base claim has been canceled, a claim which is directly or indirectly dependent thereon should be rejected as incomplete.

For purposes of further examination, claim 13 will be interpreted as if it depended from claim 7.

The term "offensive" in claim 12 is a relative term which renders the claim indefinite. The term "offensive" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

NEW MATTER

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The instant disclosure only teaches the compatibility of individuals using the MHC profile-related process and no other process. Therefore, the requirement of claims 10-12 using processes not disclosed in the initial disclosure lacks written description and therefore constitutes NEW MATTER.

Claim Rejections - 35 USC § 101

The rejection of claims 1-3 under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter is withdrawn in view of amendments made by applicant to the set of claims filed on 27 May 2007.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 7-12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The following analysis of facts of this particular patent application follows the analysis suggested in the "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility". Note that the text of the Guidelines is italicized.

To satisfy section 101 requirements, the claim must be for a practical application of the § 101 judicial exception, which can be identified in various ways (Guidelines, p. 19):

- The claimed invention "transforms" an article or physical object to a different state or thing.
- The claimed invention otherwise produces a useful, concrete and tangible result.

In the instant case, the claimed invention does not "transform" an article or physical object to a different state or thing because the claimed invention is an algorithm

for matching individuals based on blood type. This does not preclude the subject matter to be patentable as, for eligibility analysis, as

physical transformation "is not an invariable requirement, but merely one example of how a mathematical algorithm [or law of nature] may bring about a useful application." AT&T, 172 F.3d at 1358-59, 50 USPQ2d at 1452. If the examiner determines that the claim does not entail the transformation of an article, then the examiner shall review the claim to determine if the claim provides a practical application that produces a useful, tangible and concrete result. In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result achieved by the claimed invention is "useful, tangible and concrete." The claim must be examined to see if it includes anything more than a § 101 judicial exception. If the claim is directed to a practical application of the § 101 judicial exception producing a result tied to the physical world that does not preempt the judicial exception, then the claim meets the statutory requirement of 35 U.S.C. § 101. If the examiner does not find such a practical application, the examiner has determined that the claim is nonstatutory. (Guidelines, p. 20)

The question is thus whether the final result achieved by the claimed invention satisfies all three criteria of being useful, and concrete, and tangible.

Furthermore, the useful, tangible, and concrete result must be recited in the claim itself, rather than addressed in specification.

The instant claims are drawn to means for matching individuals based on MHC profiles. However, as claimed, the method does not produce a tangible result. For example, the method as claimed may take place entirely within the confines of a computer or a human mind without any communication to the outside world and without using or making available for use, the results of the computation. Thus, the instant methods of the claims do not produce any tangible result.

It is noted that claim 13 IS considered to be statutory because it recites an embodiment that contains a physical transformation (i.e. obtaining sample genetic material from said plurality of individuals).

Response to arguments:

Applicant's arguments filed 9 January 2008 have been fully considered but they are not persuasive.

Applicant argues that the amendments to the instant set of claims result in a statutory set of claims. While paragraph [0019] of the specification discloses "matching participants based on those [MHC] genetic profiles...", there is no disclosure of that this "matching," or "partnering," must be accomplished physically or output to a tangible medium. Consequently, the amendment of "partnering at least one pair of said profile-matched individuals" could also be executed within a computer without a tangible outcome.

Examples of tangible outcomes include display of a computed result. Applicant is reminded that any amendment must be fully supported and enabled by the originally filed disclosure.

The following rejections are newly applied:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 7-8 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Jacob et al. [Nature Genetics, February 2002, volume 30, pages 175-179].

Claim 7 is drawn to a method of matching partner seeking individuals in a dating service comprising:

- determining the MHC Class I and Class II genetic profiles of a plurality of said individuals, thereby providing a plurality of profiled individuals;

- performing a plurality of comparisons between said profiles for a plurality of said profiled individuals, wherein a greater level of heterozygosity between a pair of profiled individuals is indicative of a greater level of compatibility;

- matching said profiled individuals based on said level of heterozygosity, thereby providing profile-matched individuals; and

- partnering at least one pair of said profile-matched individuals.

The study of Jacob et al. teaches that paternally inherited HLA alleles are associated with women's choice of male odor.

The experiment of Jacob et al. exposes a group of female "smellers" to odors emitted by males in T-shirts; and matches the preferences of the female to that of the odor emitting male.

Figure 1 of Jacob et al. on page 176 profiles a plurality of MHC complex genetic profiles (i.e. HLA-A and HLA-B in the Class I region and HLA-DR in the Class II region)

for the paternal and maternal haplotypes of both the smellers and donors (step 1 of claim 7).

The article ends on page 178 column 2 (before the methods) by stating:

Consistent with earlier studies, these data indicate that there is not one most preferred male odor for everyone, but that odor preference is relative, based in this case on the degree of LA differences between a man and a woman.

Consequently, this study shows that increased differences (i.e. heterozygosities) in HLA genes represent a preferred male odor for the females (i.e. level of compatibility-step 2 of claim 7).

Figure 1 of Jacob et al. illustrates matching and partnering of the smellers to the donors (steps 3 and 4 of claim 7).

Claim 8 is further limiting wherein said comparisons are performed for all of said individuals.

Figure 1 of Jacob et al. shows the comparisons for all participating individuals.

Claim 13 is further limiting wherein the determining comprises obtaining sample genetic material from said plurality of individuals and typing said genetic material to determine said individuals' MHC Class I and Class II profiles.

The final paragraph in column 1 of page 179 of Jacob et al. before the Acknowledgements ("HLA typing and scoring") describes that odor donors and subjects were typed for HLA-A, -B, -C, and -DR antigens by serology, and -DBQ1 alleles using molecular techniques. This HLA typing profiles both MHC Classes I and II as some of

the above loci are on the MHC Class I region (i.e. HLA-A), while others are on the MHC Class II region (i.e. HLA-DBQ1)..

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacob et al. as applied to claims 7-8 above, in further view of Wedekind et al. [Proc. R. Soc. London B, 1995, volume 260, pages 245-249.]

Claim 9 is further limiting wherein one of the said profiles includes the DRB1 locus of the class II region of the MHC complex.

Claim 10 is further limiting wherein compatibility of said individuals is also determined using other processes.

Claim 11 is further limiting wherein the compatibility comprises a compatibility determination based on a set of characteristics.

Claim 12 is further limiting wherein matching is based on levels of heterozygosity used to confirm that partners matched with said ether processes do not have natural scents offensive to each other.

Jacob et al. teaches the matching of partners based on odors using the DR gene. Jacob et al. also discloses in the first paragraph in column 1 on page 179 "Odor

collection," documents that the set of odors obtained are not extraneous and offensive (i.e. participants of the study were told not to smoke.)

However, Jacob fails to disclose the DRB1 gene or the matching process using "other processes," (i.e. those listed in claim 11).

The study of Wedekind et al. also investigates MHC-dependent mate preferences in humans using an analogous odor study to show that repulsion to similarity in MHC scents is a biological mechanism to prevent incest.

Wedekind et al. uses the DRB1 gene in column 2 on page 245 of the study to analyze similarities and differences in the MHC complexes.

Figure 4 on page 247 of Wedekind et al. teaches the "other" processes in determining matching by correlating preferential odors in a potential mate with odors of relatives (i.e. top of Figure 4) and odors of "ex-mates" (i.e. bottom of Figure 4). These comparisons do not involve genetic profiling.

It would have been obvious to someone of ordinary skill in the art at the time of the instant invention to modify the MHC matching study of Jacob et al. by use of the MHC matching study using the DRB1 gene and the "other" comparisons of Wedekind et al. wherein the motivation would have been that Wedekind et al. explicitly undertakes the study with one of the purposes as to show biological mechanisms to prevent incest [see pages 245, column 1 of Wedekind et al.]

Conclusion

No Claim is allowed.

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Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the central PTO Fax Center. The faxing of such pages must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993)(See 37 CFR § 1.6(d)). The Central PTO Fax Center Number is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell Negin, Ph.D., whose telephone number is (571) 272-1083. The examiner can normally be reached on Monday-Friday from 7am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Marjorie Moran, Supervisory Patent Examiner, can be reached at (571) 272-0720.

Information regarding the status of the application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information on the PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RSN
22 January 2008

M. Moran

/Marjorie A. Moran/
SPE, AU 1631
1/22/2008